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GENERAL NOTES.

Members and friends of the Society are invited to aid the Committee on Publication in carrying out the work of this department. Communications of general interest will be gladly received, and may be sent to SIDNEY D. TOWNLEY, 2023 Bancroft Way, Berkeley, California.

Professor GEORGE E. HALE, Director of the Yerkes Observatory; Professor K. F. KÜSTNER, Director of the University Observatory of Bonn; Professor ROBERT HELMERT, Director of the Prussian Geodetic Institute; and Dr. JUAN M. THOME, Director of the National Observatory of the Argentine Republic, have recently been elected foreign members of the Royal Astronomical Society.

M. POINCARÉ has been awarded the gold medal of the Royal Astronomical Society.—*Science*, February 9th.

The Directors of the Benjamin Apthorp Gould Fund announce that they are prepared to make another distribution of the income of the fund. The money is given to aid in carrying out special astronomical investigations. Applications should be sent to Dr. S. C. CHANDLER or Professor ASAPH HALL, Cambridge, or to Professor LEWIS BOSS, Albany.

Science, February 23, 1900, states that the Trustees of the Western University of Pennsylvania have decided to begin the erection of the new building for the Allegheny Observatory. It will be situated in Riverview Park, and will cost \$250,000.

The American Academy of Arts and Sciences has recently given \$500 from the income of the Rumford fund to Harvard College Observatory, to carry out an investigation of the brightness of faint stars.

A bill has been introduced in Congress to provide for the reorganization of the Naval Observatory along lines suggested in the report of the Board of Visitors.

Dr. W. S. EICHELBERGER, for some time computer in the Nautical Almanac Office and the Naval Observatory, has been appointed Professor of Mathematics in the United States Navy and stationed for duty at the Naval Observatory.

Señor JULIO GARAVITO, Director of the Bogota Observatory, has printed a small pamphlet in which he describes the determination of the latitude of the observatory by a modification of TALCOTT'S method. The instrument used was a two-inch field theodolite.

The modification of TALCOTT'S method consists in setting the horizontal thread a little below the meridian altitude of the lowest star, and noting the interval between the transits of each star over the same thread, before and after the meridian passage. The observations are afterwards reduced to the meridian altitude in the usual manner. No micrometer is required. The rate of the timepiece is important, but not the actual correction; and as all the observations are made at the same altitude, there are no corrections for differential refraction. The level attached to the vertical circle is used for determining variations of inclination.

With respect to accuracy, the observations are quite satisfactory, the probable error of a determination from one pair of stars being $\pm 1''.5$. The writer modestly describes himself as "hardly more than a lover of astronomy," and regards the results of his method as being therefore all the more satisfactory. Carrying out the individual observations to $0''.001$ is, however, about the only evidence of unfamiliarity with practical astronomical work.

It would seem that the principal advantage of Señor GARAVITO'S method is, that it requires no micrometer, so that it can be applied to any altitude and azimuth instrument. With respect to precision it cannot be regarded as any improvement on the ordinary method, since the greatest source of inaccuracy — the uncertainty of the level indications — remains unchanged.

The *Astronomical Journal* for February 12th contains a very suggestive article by Professor SIMON NEWCOMB, on the distribution of the mean motions of the minor planets. Astronomical students looking for a subject of a doctor's thesis might do well to look at it.

In *Nature* for January 4th and 11th there is a very interesting article by Sir NORMAN LOCKYER describing the eclipse expedition to Viziadurg, in January, 1898.

The *Astrophysical Journal* for January contains a valuable article on eclipse problems by Professor GEORGE E. HALE.

No one who intends to make observations at the coming eclipse should fail to read it.

In a number of illustrations which have recently appeared, the great telescope now under construction for the Paris Exposition of 1900 is represented as projecting views of heavenly bodies upon a screen in a darkened room, where they are viewed by a large audience; and an article in *Nature* (December 21, 1899) states that "an image of the Moon 16 meters in diameter, and of *Mars* 3.70 meters in diameter, are promised to the *abonnés*."

If such promises have actually been made, it would seem to be worth while for somebody to point out in advance their utter absurdity, since the daily press will certainly attribute them to astronomers. The area of the image of *Mars*, as above stated, is 8.8 times the area of the object-glass (1.25 meters diameter) through which all the light in the image must pass, and this number represents the ratio of illumination of object-glass and screen. In other words, the screen will be only about one-ninth as bright as a sheet of paper placed outdoors, where *Mars* (and no other source of light) can shine on it. The image on the screen will be further dimmed by loss of light in the apparatus; but whether it is a few dozen or score of times brighter or fainter makes little difference, as it will be equally invisible under all these circumstances.

The eye-end of the telescope will be large enough to hold a magic lantern, with which fine views of the heavenly bodies could be projected on the screen, and the telescope would then be independent of the weather. Possibly this is what is meant in the promises to subscribers.

HENRY HOLT & Co. have recently issued a new elementary astronomy by Dr. E. S. HOLDEN. From a hasty examination it seems that the work of both the author and the publishers has been well done. The material is well arranged, and the cuts and figures, of which there are many, are for the most part excellent. One exception to the last statement may be found in figure 207, the Moon passing near the *Pleiades*. The figure of the crescent Moon extends considerably beyond a semicircle, the terminator is the arc of a circle instead of an ellipse, three stars are within the horns of the Moon, and the crescent has an impossible position with reference to the stars of the cluster.

In discussing the double canals of *Mars* Dr. HOLDEN offers

an explanation not before given in any text-book. On page 310 we find the following:—

“Marvels of ingenious speculation have been printed to explain why ‘intelligent inhabitants’ having one ‘canal’ not sufficient for ‘commerce’ did not widen it, but preferred to dig another parallel to it, and why this second ‘canal’ sometimes vanishes altogether in ‘a few hours.’ Recent experiments have proved that these companion canals are optical illusions produced by fatigue of the eye and by bad focusing. Some, at least, of the single narrow dark streaks (‘canals’) have a real existence. It is probable that many of those laid down and named on the maps of SCHIAPARELLI, LOWELL, and others are mere illusions. It is likely that all the double canals were so.”

We do not know the nature of the experiments to which Dr. HOLDEN refers; but we believe that the idea that many of the markings supposed to have been seen on *Mars*, *Venus*, and *Mercury* are optical illusions of some nature has steadily gained ground for some time. Any adequate explanation of these peculiar markings will be welcomed by astronomers.

The Harvard College Observatory intends to search for an intermercurial planet by means of photography during the total eclipse of the Sun on May 28th. Four lenses, each having an aperture of five inches and a focal length of eleven feet four inches, “will be placed on one mounting, in such a manner as to photograph a region extending for sixteen degrees on either side of the Sun, and a breadth of ten degrees throughout its length.” From experiments recently made at Cambridge, Professor PICKERING is led to believe that all stars brighter than the eighth magnitude which are in the region about the Sun will make a sensible impression on the photographic plate during the total phase of the eclipse.

Within the past few weeks the astronomical world has lost by death two well known observers and two generous friends. Dr. CARL THEODOR ROBERT LUTHER, for many years Director of the Düsseldorf Observatory, was well known for his work on the minor planets; Dr. GEORGE RÜMKER, Emeritus Director of the Hamburg Observatory, was recognized as an able observer of comets and asteroids, and, in addition, was known for the attention he gave to all questions relating to the improvement of navigation.

Mr. LEANDER J. MCCORMICK, who died recently in Chicago at the age of eighty-one, will be remembered by astronomers for

his generous gift to the University of Virginia of the splendid 26-inch Clark refractor and of the observatory in which it is housed.

Members of this Society will experience in common with astronomers the world over a personal sense of loss in learning of the death of Miss CATHARINE WOLFE BRUCE. From the *Astrophysical Journal* for March we quote the following paragraph:—

“For years confined to her room by an ever-increasing illness, and personally known by but few of the many who have benefited by her bounty, Miss BRUCE has nevertheless endeared herself to men of science at home and abroad, aiding as perhaps no other has done the progress of research. Recognizing no national boundaries, giving assistance where it was most needed, and seeking no fame for herself, Miss BRUCE may well be regarded as one of the most sympathetic and generous patrons astronomy has ever known. Many a project, which without her assistance would have come to naught, has been successfully developed through her aid. Many an advance in our knowledge of the heavens is due directly to the help she gave. The appeals that came to her from far and wide were received with the kindest consideration, both by herself and also by her sister, Miss M. W. BRUCE, who often acted in her stead. Astronomers in almost every country of the civilized world know from their own experience how prompt was the response and how often it took the affirmative form. In common with many others who have received less direct advantage from her gifts to science, they will sincerely mourn her loss.”